



75TH AIR BASE WING

eMAssist

Reducing Transportation Greenhouse Gases with Commuter Programs and Alternative Fuels

2009 Environment, Energy and
Sustainability Symposium and Exhibition

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Outline

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Hill AFB Background

Air Logistics Center:
> 28,000 Employees





Hill AFB Background

Temperature Inversion— A Pollution Problem:

- > Unique geography and meteorology create inversions over Hill AFB
 - Mountain barrier with warm air aloft trapping cold air below
 - Corridor of north/south traffic along the Wasatch Front





Commuter Programs

- > Local regulatory requirement “Employer-Based Trip Reduction Program”
- > Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management



- > Partnered with local transit authority
- > 8,000 commuters to Hill AFB (typical day shift)



Commuter Program Challenges

- > Increasing ridesharing and public transportation participation
 - Security
 - Cost
 - Schedules
 - Intra-base transportation
 - Awareness/availability
 - Sponsorship



Commuter Program Transportation Incentive



**UNITED STATES AIR FORCE
OUTSIDE THE NATIONAL CAPITAL REGION
PUBLIC TRANSPORTATION BENEFIT PROGRAM APPLICATION**

Purpose: Executive Order 13150 requires Federal agencies to establish transportation incentive program in order to reduce Federal employee's contribution to traffic congestion and air pollution and to expand their commuting alternatives. The purpose of the program is to encourage commuting by mass transportation and provide incentives to members/employee.



Commuter Program Vanpool

- > Vanpool program growing since 2002
 - Over 130 vans leased from UTA
 - 12 and 15 passenger vans
 - Nearly 1,195 employees vanpooling
 - Program includes maintenance, insurance, fuel, six guaranteed trips/yr for emergency or overtime
 - Each vanpool has its own ground rules
 - > Time to meet/where
 - > Driver rotation/who sits where
 - > Radio/topics of conversation





Commuter Program Public Transit

- > Commuter rail (Frontrunner) completed spring 2008
 - Nearest train station is 2 miles from the base
- > Discussions with local transit authority





Commuter Program Benefits

"Air Force is the largest single consumer of energy in the Federal Government and has assumed a GHG leadership role." SAF/IEE memo 12 Feb 08

- > Mission sustainability benefits of increasing ridesharing and use of public transportation
 - Safety: 25 times less likely to have a fatal traffic accident when riding public transit versus travel in a personal vehicle; ref NSC
 - Environment: reduces air pollutants contributing to smog and greenhouse gas emissions
 - Public relations: added benefit of reducing the number of cars on increasingly congested roads



Alternative Fuels

Reducing dependence on foreign oil by using alternative fuels:

- > Bio Diesel
- > Ethanol
- > Natural gas
- > Hydrogen



Alternative Fuels: Bio Diesel

- > Available at Base service station
- > 2007 Energy Bill requires contains Bio Diesel carve-out
- > Cold weather gelling issues
 - > Mixed/treated to account for weather conditions (BQ 9000, ASTM D975)
 - > Use different feed stocks for cold weather
 - > Use 5% biodiesel and 95% diesel in cold weather
 - > Mix fuel 25 to 30 C above cloud point



Photo: USAF Infrastructure Energy Strategic Plan

Alternative Fuels: Flex Fuel E85

- > Currently available from off-base service station
- > Efforts underway to revise the ethanol blend law
- > Corn and Cellulosic Ethanol
 - > In 20 years corn and cellulosic ethanol could produce 140 billion gallons per year (95% of current US transportation fuel supply)



Photo: USAF Infrastructure Energy Strategic Plan



Alternative Fuels: Natural Gas

- > Base has fueling facilities for Natural Gas but few vehicles
- > United States has the 4th largest reserves in the World





Alternative Fuels: Hydrogen

- > Transition to hydrogen made easier in the future
 - NG engines can be converted to Hydrogen
 - NG transmission systems will work with Hydrogen





Lessons Learned and Take-Aways

Strategies to Increase Ridesharing and Use of Public Transportation:

- > Identify solutions for impediments to commuting
- > Engage local transit authority for joint solutions to maximize existing infrastructure
- > Communicate incentives and benefits



Lessons Learned and Take-Aways

Strategies to Increase Use of Alternative Fuels:

- > Diversify
- > Get to know your fuels people
- > Use Executive Order 13423 requirements in project funding requests



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